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The Return of Saturn: Near-Infrared Absolute Photometry at Ring Plane Crossing

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The return of Saturn to an edge-on geometry during the Ring Plane Crossing event of 1995 offered a prime opportunity to study the Saturn system in detail, without the normal obscuration by the planet's rings and ring glare. We acquired near-infrared observations of Saturn and its satellites during the August/September 1995 Ring Plane Crossing event, in canonical near-infrared filters, with the NSFCAM instrument at the NASA/IRTF. Our previous work concentrated on the small and medium-sized inner satellites of Saturn (Momary et al., Icarus, in press), which are usually difficult to observe due to the rings. Using observations from the same dataset, we now present preliminary results focusing on the planet itself. We concentrate here on four main distinct regions--the North and South Equatorial Zones, a North Tropical Zone and a North Tropical Belt adjacent to the NTrZ. We find that the NTrZ remains visible even in the strong CH₄ band observations at 2.27 microns, indicating material at a high altitude. The NTrZ is also roughly five times brighter than the NTrB in this wavelength.